J. NEWMAN.

BELLOWS ACTUATING DEVICE FOR MECHANICAL PIANO PLAYERS.

APPLICATION FILED MAR. 11, 1908.

907,860. Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.

FIG. 1

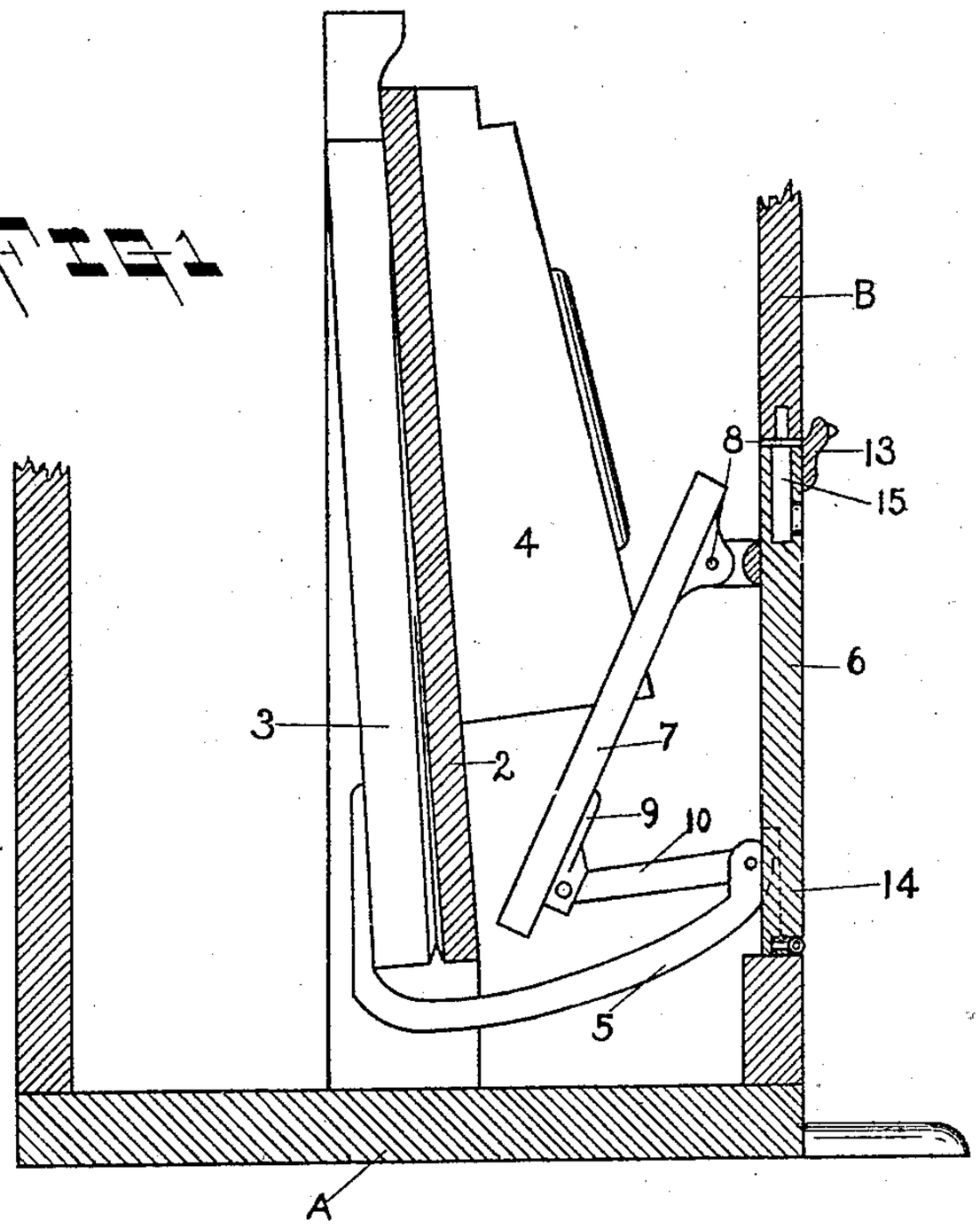
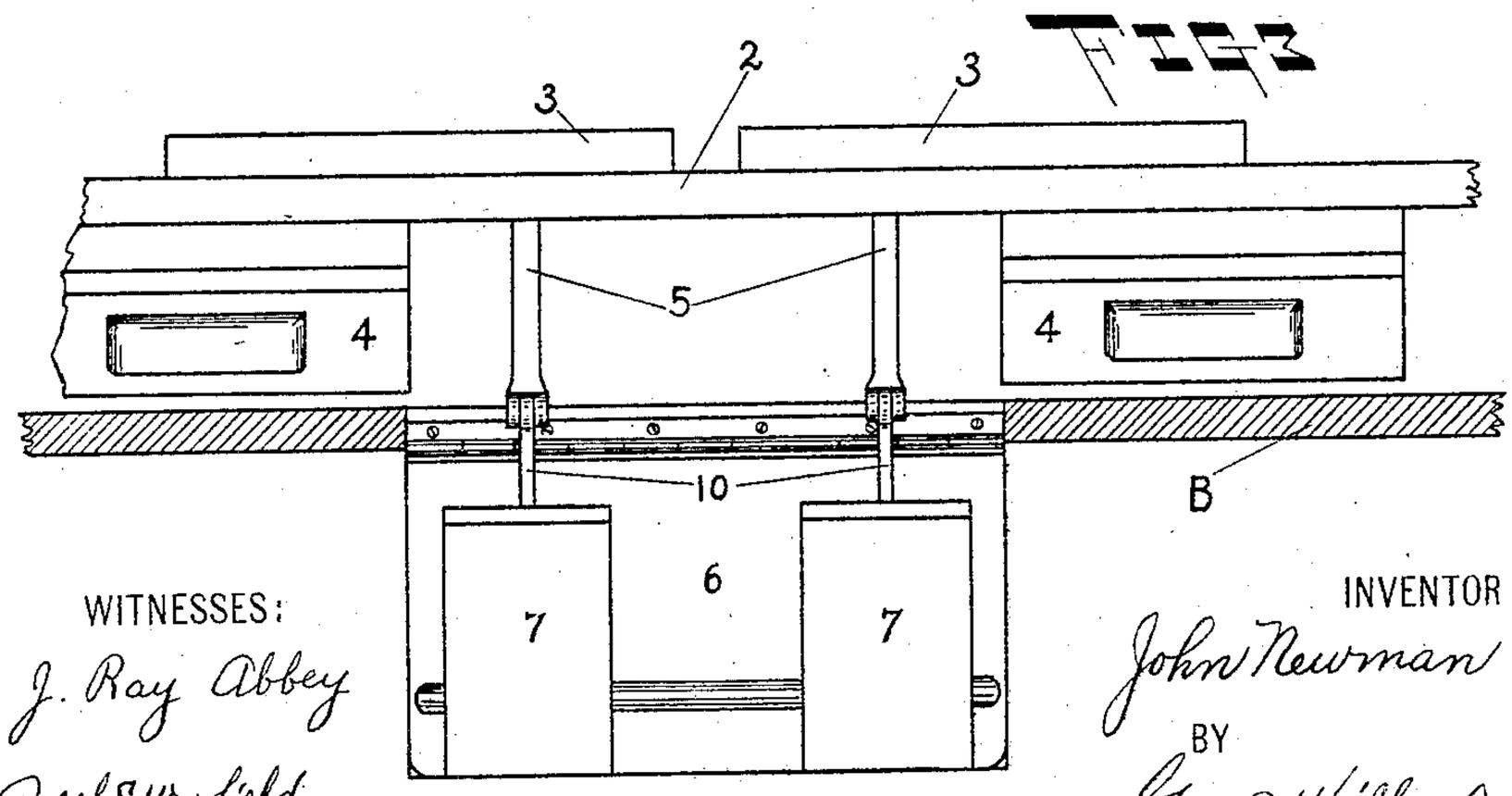


FIG. 3



WITNESSES:

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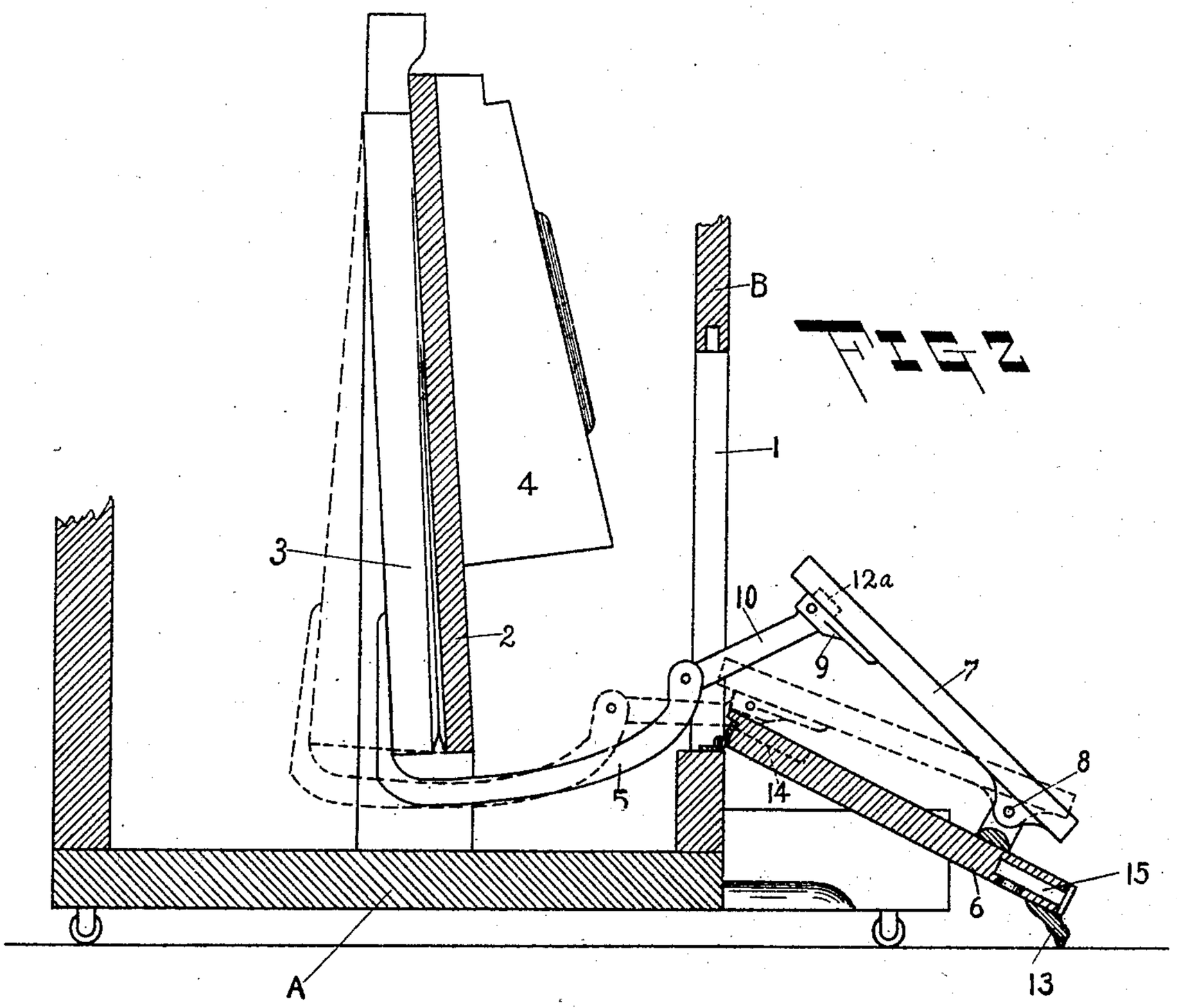

FIG 2

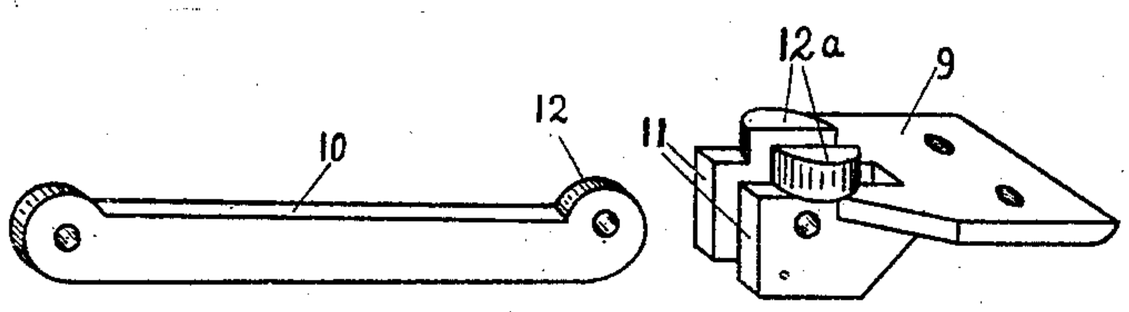

FIG 4

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BELLOWS-ACTUATING DEVICE FOR MECHANICAL PIANO-PLAYERS.

No. 907,860. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed March 11, 1908. Serial No. 420,496.

To all whom it may concern:

Be it known that I, JOHN NEWMAN, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Bellows-Actuating Devices for Mechanical Piano-Players; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bellows-actuating devices for mechanical piano players, and more particularly to that class of players contained within a piano casing.

One object of my invention is to provide a means of this character which is more accessible and more easily opened and closed than heretofore.

Another object of my invention is the provision of a bellows-actuating means forming part of the bottom frame of a piano, which device when closed is effectually concealed so that one unacquainted with its presence in the casing would not know that the piano was equipped with a mechanical player.

To these and other ends, my invention consists in certain novel features and combinations, such as will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical cross-sectional view showing my invention in closed position applied to a piano casing; Fig. 2 is a similar view showing my invention in open or operative position; Fig. 3 is a top plan view of Fig. 2; and Fig. 4 is a perspective detail view of the link and its bracket disassembled.

(A) indicates the piano casing; (B) the bottom frame having an opening (1) therein; and (2) the bellows board on which the active bellows (3) and the reserve bellows (4) are mounted. The active bellows (3) is provided with a forwardly projecting arm (5).

Heretofore, the opening in the bottom frame has been closed by means of obviously apparent sliding doors. The bellows-actuating means has been carried on a base independent of the doors and movable in and out through the opening. To withdraw the bellows-actuating mechanism from the piano casing, it was necessary first to open the door and then reach in and pull out the bellows-actuating pedals. In replacing the mechanism, a reverse order of procedure was necessary prefaced by depressing and holding down the pedals as they were replaced because of the limited space between the bottom frame and the bellows board. In my invention, to remove and replace the bellows-actuating pedals it is simply necessary to open and close the door, the space between the bottom frame and bellows board being no greater than heretofore.

In carrying out my invention, I hinge a door (6) to the lower edge of the opening (1), such door when closed lying flush with the outer surface of the bottom frame and apparently forming an integral part thereof. This door constitutes the base on which the bellows-actuating pedals (7) (7) are mounted. The pedals are pivotally secured at one end to the inner face of the door, as at (8), the opposite free ends of the pedals being equipped with brackets (9). Links (10) (10) extend between and pivotally connect the brackets and the outer ends of the projecting arms (5) respectively. The pedals and the linkage connecting the pedals to the bellows must be received in the narrow space between the bellows board and bottom frame. To effect this, it is necessary that the arms (5) be extended outward as far as possible, to which end, I prefer to project the arms part-way into, but not through the opening (1) in the bottom frame. As a result I am able to use a short link (10) which moves around its pivotal connection with the free end of the arm (5) in the arc of a circle. The length of the link is less than the space between the bellows board and the bottom frame. (See Fig. 1). The projecting ends of the arms (5) are received in recesses (14) (14) formed in the door (6).

The connection between the link and bracket is as follows: The bracket (9) is slotted, the walls (11) of the slot being apertured. The forward end of each link is preferably provided with an ear (12) having an off-set aperture, the aperture being located to one side of the longitudinal axis of the link. This apertured ear is received in the slot in the bracket and pivotally secured to the walls thereof.

In order to retain the bracket stationary, I form a circular split boss (12[a]), the respective sections of the boss being located on the

respective walls of the bracket. The boss is set into the under face of the pedal and together with the usual fastening means passing through the body of the bracket, holds the latter immovably in place.

In order to conceal the fact that a portion of the bottom frame is movable, and also to provide means for swinging the door outward, I arrange a molding (13) along the upper outer edge of the door. This molding is offset from the surface of the door to give a finger-hold between the molding and the bottom frame to swing the door open. The offset edge of the molding conceals the joint between the door and the bottom frame. The free edge of the door when the latter is in its lowered position, as shown in Fig. 2, is supported by the molding. A lock (15) of any suitable nature may be employed to retain the door (6) in closed position, whereby the piano is available for use, but the mechanical player is prevented from being used. The door may be opened to the position shown in Fig. 2 by one movement and a single movement suffices to close the door. No manipulation of the pedals is necessary when closing the door.

It is obvious that changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention.

Having thus fully disclosed my invention, what I claim as new is—

1. The combination with a pivotally-supported pedal, of a slotted bracket secured to the pedal, a cylindrical split boss, the sections of which are located on each wall of the slot, the boss embedded in the pedal, and fastening means coöperating with the boss, to maintain the bracket stationary.

2. In a device of the class described, the combination with the front wall of a piano casing, a bellows, a door hinged to and forming a part of the front wall, the door when closed adapted to lie flush with the casing, a pedal hinged to the inner face of the door, and means connecting the pedal and bellows, of an offset molding carried by the outer, upper edge of the door to conceal the joint between the door and the front wall, the molding constituting a rest for the door when open and also a finger hold whereby the door may be opened.

3. In a device of the character set forth, the combination with a bellows, of a suitably supported pedal, a slotted bracket secured to the toe end of the pedal, a split boss, the sections of which are located on the respective walls of the slot, the boss embedded in the pedal, fastening means coöperating with the boss to retain the bracket stationary, an arm projecting from the bellows, and a link, one end of which is received and pivotally secured between the walls of the slotted bracket, the opposite end of the link being pivotally connected to the outer end of the arm.

In testimony whereof, I affix my signature in presence of two witnesses.

JOHN NEWMAN.

Witnesses:
HARLEY C. ALGER,
RALPH S. WARFIELD.